

# EUROPEAN PATENT OFFICE

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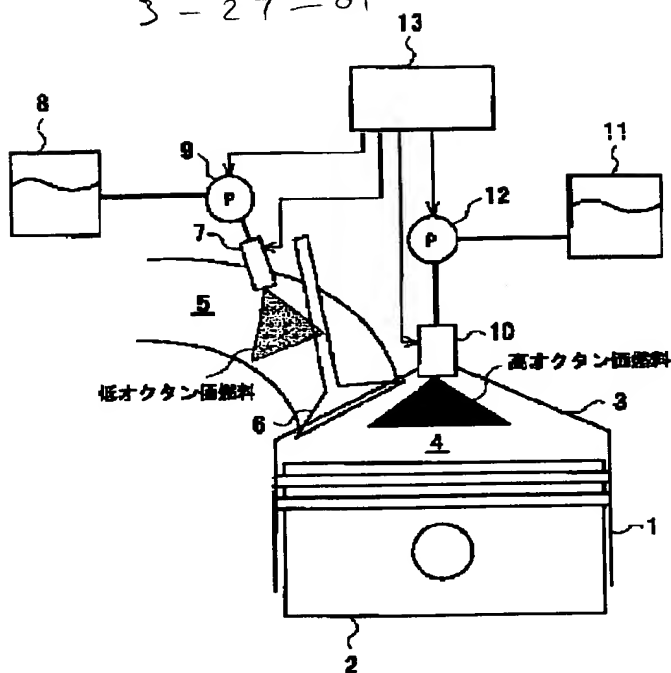
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TITLE : FUEL SUPPLY METHOD OF  
GASOLINE INTERNAL COMBUSTION  
ENGINE



ABSTRACT : PROBLEM TO BE SOLVED: To enable optimal variable control of the octane number of supplied fuel in accordance with an engine operation condition, and stabilize compression self-ignition combustion in all operation regions.

SOLUTION: In low-load operation, only low-octane-number fuel of high ignition is supplied from an intake port fuel injection valve 7, so that stabilization of combustion is ensured. In middle- or high-load operation, the supply amount of low-octane-number fuel is kept constant, whereas the supply amount of high-octane-number fuel with high knocking-resistance injected from an in-cylinder fuel injection valve 10 is increased. The ratio of high-octane-number fuel in all the fuel supply amount is increased as a load gets higher. Therefore, occurrence of knocking can be suppressed, and stable compression self-ignition combustion is enabled in all operation regions.

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